

IN THE CLAIMS

Please amend claims 1-2, 4, 8-16, 18, and 21-30, as well as, cancel claims 3, 5, 17, 19, and 20, as follows:

1. (Currently Amended) A method for use in forming a read sensor for a magnetic head, comprising:

~~prior to forming a trackwidth for the read sensor;~~

forming a protective layer over a plurality of read sensor layers;

forming a first photoresist layer structure in a central region over ~~a plurality of the~~ read sensor layers;

etching the read sensor layers such that end portions of the read sensor layers are removed and a central portion remains underneath the first photoresist layer structure, to thereby define a stripe height for the read sensor;

forming an insulator layer around the read sensor where the end portions were removed;

removing the first photoresist layer structure through mechanical interaction with a chemical-mechanical polishing (CMP) pad;

removing the protective layer through etching;

forming a second photoresist structure in a central region over the read sensor layers; and

etching the read sensor layers such that the end portions of the read sensor layers are removed and a central portion remains underneath the second photoresist structure, to thereby define a trackwidth for the read sensor.

2. (Currently Amended) The method of claim 1, wherein the photoresist layer structure is formed without an undercut.

3. (Canceled)

4. (Currently Amended) The method of claim 1, ~~wherein the photoresist layer comprises a first photoresist layer and the method further comprises:~~

~~after defining the stripe height for the read sensor;~~

~~forming a second photoresist layer in a central region over the read sensor layers;~~

~~etching the read sensor layers such that end portions of the read sensor layers are removed and a central portion remains underneath the second photoresist layer, to thereby define the trackwidth for the read sensor;~~

~~depositing hard bias and lead layers around the read sensor; and~~

~~removing the second photoresist layer structure through mechanical interaction with a CMP pad.~~

5. (Canceled)

6. (Currently Amended) The method of claim 1, wherein the act of removing the first photoresist layer structure comprises mechanically compressing the first photoresist layer structure with the CMP pad.

7. (Canceled)

8. (Currently Amended) The method of claim 1, wherein the protective layer comprises a first protective layer and the method further comprising:

prior to removing the first photoresist layer structure, forming a second protective layer over materials which surround the read sensor layers; and

wherein the materials comprise one of insulator materials and lead materials.

9. (Currently Amended) The method of claim 1, wherein the protective layer comprises a first protective layer and the method further comprising:

prior to removing the first photoresist layer structure, forming a second protective layer over materials which surround the read sensor layers ~~and surrounding materials~~ to a thickness of between about ~~50~~ 100 – 200 Angstroms.

10. (Currently Amended) The method of claim 1, wherein the protective layer comprises a first protective layer and the method further comprising:

prior to removing the first photoresist layer structure, forming a second protective layer over materials which surround the read sensor layers ~~and surrounding materials~~; and

wherein the first and the second protective layer comprises layers comprise carbon.

11. (Currently Amended) The method of claim 1, wherein the protective layer comprises a first protective layer and the method further comprising:

prior to removing the first photoresist layer structure, forming a second protective layer over materials which surround the read sensor layers ~~and surrounding materials~~; and

wherein the first and the second protective layer comprises layers comprise carbon having a hardness of about 22 GPa.

12. (Currently Amended) A method for use in making a read sensor for a magnetic head, comprising:

defining a stripe height for the read sensor by:

forming a first protective layer over a plurality of read sensor layers;

forming a first photoresist layer structure in a central region over a ~~plurality of~~ the read sensor layers;

etching the read sensor layers such that end portions of the read sensor layers are removed and a central portion remains underneath the first photoresist layer structure;

forming a second protective layer around the central portion;

removing the first photoresist ~~layer~~ structure through mechanical interaction with a chemical-mechanical polishing (CMP) pad;

removing the first and the second protective layers through etching;

subsequently defining a trackwidth for the read sensor by:

forming a second photoresist ~~layer~~ structure in a central region over the read sensor layers;

etching the read sensor layers such that end portions of the read sensor layers are removed and a central portion remains underneath the second photoresist ~~layer~~ structure; and

removing the second photoresist ~~layer~~ structure through mechanical interaction with a CMP pad.

13. (Currently Amended) The method of claim 12, further comprising:
after etching the read sensor layers with use of the first photoresist ~~layer~~ structure,
forming an insulator layer around the read sensor where the end portions were removed.

14. (Currently Amended) The method of claim 12, further comprising:
after etching the read sensor layers with use of the first photoresist ~~layer~~ structure,
forming an insulator layer around the read sensor where the end portions were removed;
and

after etching the read sensor layers with use of the second photoresist ~~layer~~ structure, forming hard bias and lead layers around the read sensor where the end portions were removed.

15. (Currently Amended) The method of claim 12, wherein the first and the second photoresist ~~layer~~ structures are formed without undercuts.

16. (Currently Amended) The method of claim 12, wherein the act of removing the first photoresist ~~layer~~ structure comprises mechanically compressing the first photoresist ~~layer~~ structure with the CMP pad.

17. (Canceled)

18. (Currently Amended) The method of claim 12, ~~further comprising:~~
~~prior to removing the first photoresist layer, forming a protective layer over read sensor layers and surrounding materials; and~~
wherein the first and the second protective ~~layer comprises~~ layers comprise carbon.

19. (Canceled)

20. (Canceled)

21. (Currently Amended) The method of claim 12, ~~further comprising:~~
~~prior to removing the first photoresist layer, forming a first protective layer over the read sensor layers and surrounding materials;~~
~~prior to forming the second photoresist layer, forming a second protective layer over the read sensor layers and surrounding materials; and~~
wherein the first and the second protective layers comprise carbon having a hardness of about 22 GPa.

22. (Currently Amended) The method of claim 12, ~~further comprising:~~
~~prior to removing the first photoresist layer, forming a first protective layer over the read sensor layers and surrounding materials;~~
~~prior to forming the second photoresist layer, forming a second protective layer over the read sensor layers and surrounding materials; and~~

wherein the first and the second protective layers are formed with a thickness of between about ~~50~~ 100 – 200 Angstroms.

23. (Currently Amended) A method of forming a read sensor of a magnetic head, comprising:

forming a photoresist without undercuts in a central region over a plurality of read sensor layers;

forming a first protective layer below the photoresist;

etching the read sensor layers such that end portions of the read sensor layers are removed and a central portion remains underneath the photoresist, to thereby define a stripe height for the read sensor; ~~and~~

forming an insulator layer around the read sensor where the end portions were removed;

forming a second protective layer around the central portion;

removing the photoresist through mechanical interaction with a chemical-mechanical polishing (CMP) pad; and

removing the first and the second protective layers through etching.

24. (Currently Amended) The method of claim 23, wherein the photoresist comprises a first photoresist and the method further comprises:

after defining the stripe height for the read sensor:

forming a second photoresist without undercuts in a central region over the read sensor layers; and

etching the read sensor layers such that end portions of the read sensor layers are removed and a central portion remains underneath the second photoresist, to thereby define ~~the~~ a trackwidth for the read sensor.

25. (Currently Amended) The method of claim 23, wherein the photoresist comprises a first photoresist and the method further comprises:

after defining the stripe height for the read sensor:

forming a second photoresist without undercuts in a central region over the read sensor layers;

etching the read sensor layers such that end portions of the read sensor layers are removed and a central portion remains underneath the second photoresist, to thereby define ~~the~~ a trackwidth for the read sensor; and

removing the second photoresist through mechanical interaction with a CMP pad.

26. (Currently Amended) The method of claim 23, wherein the first and the second protective ~~layer comprises~~ layers comprise carbon.

27. (Currently Amended) The method of claim 23, wherein the first and the second protective ~~layer comprises~~ layers comprise carbon having a hardness of about 22 GPa.

28. (Currently Amended) The method of claim 23, wherein the first and the second protective ~~layer is~~ layers are formed to a thickness of between about 50 100 – 200 Angstroms.

29. (Currently Amended) The method of claim 23, wherein the first and the second protective ~~layer is~~ layers are formed over the read sensor layers.

30. (Currently Amended) The method of claim 23, wherein the first and the second protective ~~layer is~~ layers are formed over the read sensor layers and surrounding insulator materials.